

Work Order ID 162486

162486

Page 1

Tuesday, June 06, 2017 4:57:34 PM

Item ID: 646.3315 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*

Item Name: Blade

Start Date: 6/8/2017 Start Qty: 12.00 *12*

Cust Item ID:

Required Date: 6/29/2017 Req'd Qty: 12.00 *12*

Customer:

Reference:

Approvals: Process Plan: *PA* DAS 21 Date: 20170607 Tooling: Date: Run Start *NR1*
 QC: 9-89 Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
646.3300	N/C3

100	BAND SAW	0.00							
100									
Bandsaw	Memo	0.48							
Jeaspa Bandsaw	Cut Blank at 2.600"								

DAS 14 9-89
 DAS 14 9-89

17/06/22

110	HAAS CNC VERTICAL MACHINING #1	1.65							
110									
HAAS 1	Memo	3.78							
HAAS CNC vertical machine #1	1-Machine per folio FB147 DWG REV: <i>W/C3</i> FOLIO REV: <i>AA</i>								

DAS 14 9-89

5.17/06/29

2- deburr and break all sharp edges except otherwise noted

KNIFE EDGE MUST BE SHARPENED USING STONE, REMOVE ALL
 BURRS ON CUTTING EDGE

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : ☐			
Misidentified ☐		Past Due ☐					

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Item ID: 646.3315

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Blade

Stop *NS2*

Start Date: 6/8/2017 Start Qty: 12.00

12

Cust Item ID:

Required Date: 6/29/2017 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start *NR1*

QC: Date: SPC (Y/N): Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC2- Inspect parts off machine FAI/FAIB	0.00							DAS 14 9-89
120						12	0		56 17/06/28
QC	Memo	0.12							
Quality Control									
130	QC8- Inspect parts - second check	0.00							DAS 39 9-89
130						12			17-06-29
QC	Memo	0.24							
Quality Control									
140	Outsource process - Heat Treat	0.00							
140									h
Outsource1	Memo	2,880.00							AB 07/07/17
Outsource process - Heat Treat	HEAT TREAT AS PER DWG, SEE NOTE #3								
	ISSUE P/O: _____								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Work Order ID 162486

Tuesday, June 06, 2017 4:57:34 PM

162486

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Item-ID: 646.3315

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Blade

Stop

NS2

Start Date: 6/8/2017 Start Qty: 12.00

12

Cust Item ID:

Required Date: 6/29/2017 Req'd Qty: 12.00

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

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Stop

NR2

Sequence ID/
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Description

Set Up/
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Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

Receive & Inspect for Damage & Mat'l Certs

0.00

150

Packaging

Memo

0.24

Packaging

12 x SP A-724

155

QC5- Inspect part completeness to step on W/O

0.00

155

QC

Memo

0.24

Quality Control

12 DAS 38 9-89 JUL 26 2017

160

Spray Painting per QSI005 4.2

0.00

160

SprayPaint

Memo

0.24

Spray Painting

PRIME AS PER DWG, SEE NOTE #4

PRIMER BATCH: 137287

12 DAS 41 9-89 AUG 03 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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170	QC14- Inspect Spray Paint	0.00							
170						12			DAS 38 AUG 08 2017
QC	Memo	0.00							
Quality Control									
180	Identify as per dwg & Stock Location: <u>CCK103</u>	0.00							
180						12x			DAS 26 9-89 AUG 08 2017
Packaging	Memo	0.12							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								
190	QC21- Final Inspection - Work Order Release	0.00							
190									17/8/10
QC	Memo	1.20							
Quality Control									



AUG 08 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS									
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Date :		Step #:		QTY Effective :						MRB (QS1042) Approval			
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												Lead hand / Supervisor Approval Verification	
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OTHER :													

Picklist Print

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Work Order ID: 162486

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Parent Item: 6463315

646-3315

Parent Item Name: Blade

Start Date: 6/8/2017 Required Date: 6/29/2017

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP REV:A NEW ISSUE 12/11/07 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MSTEEL-A2- B0.500X1.250		Purchased	No			100	f	35.9850	0.217	2.741053			

MSTFEI -A2-B0 500X1 250

AISI A2 TOOL STEEL BAR, 0.500 X 1.250

**

DAS
14
9-89

DAS
49
9-89

17/06/22

Location

Loc Qty

Loc Code

MAT010

35.985

M137285

0.321

M137401

11.664

M137625

24

2.02

DART AEROSPACE LTD	Work Order:	162486
Description: Blade	Part Number:	646.3315
Inspection Dwg: 646.3300 Rev: NC3		Page 1 of 1

INSPECTION SHEET

[illegible]

Measured by: Kt 14	Checked by: DAS	QC Inspector:
Date: 17-06-28	Date: 39 9-88 17-06-29	Date:

Engineering Approval: (If necessary)		Date:	
--	--	--------------	--

Rev	Date	Change	Revised by	Approved
A	14.06.25	New Issue	KJ	
B	16.08.29	Dwg Rev updated	KJ 	

INDUSTRIES, INC.

04765

SHEET 1 OF 1

REV: NC

PREPARED BY J. SOTO

DATE: 12/08/2014

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: UPPER CUTTER ASSY

APPROVED BY:

ENGR

MFC

190

FF

NEXT-ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

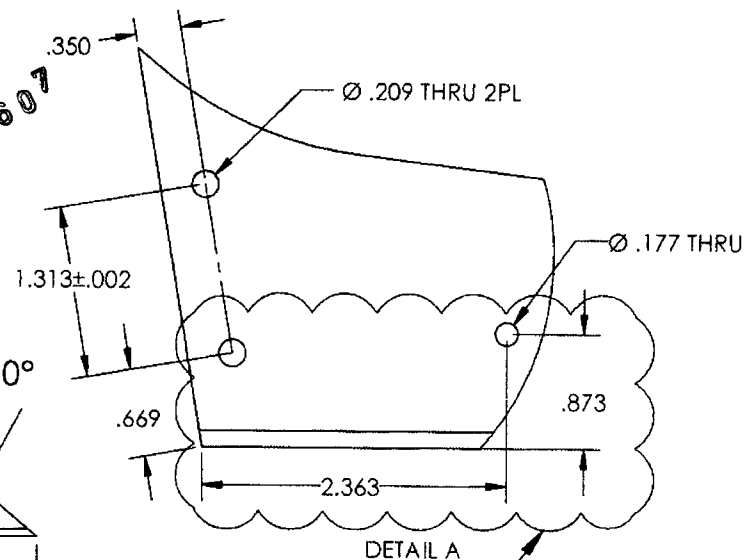
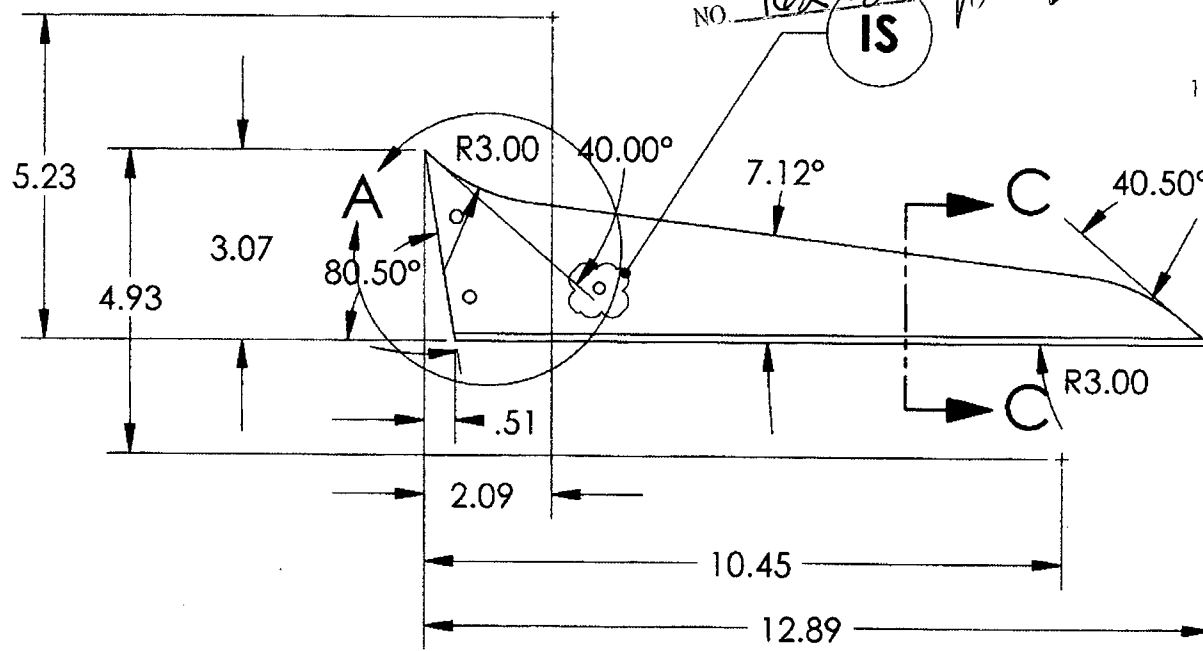
REASON: ADDED HOLE DIMENSION TO 646.3313.

SHEET 5 IS:

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 162780

IS

20170607



IS

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

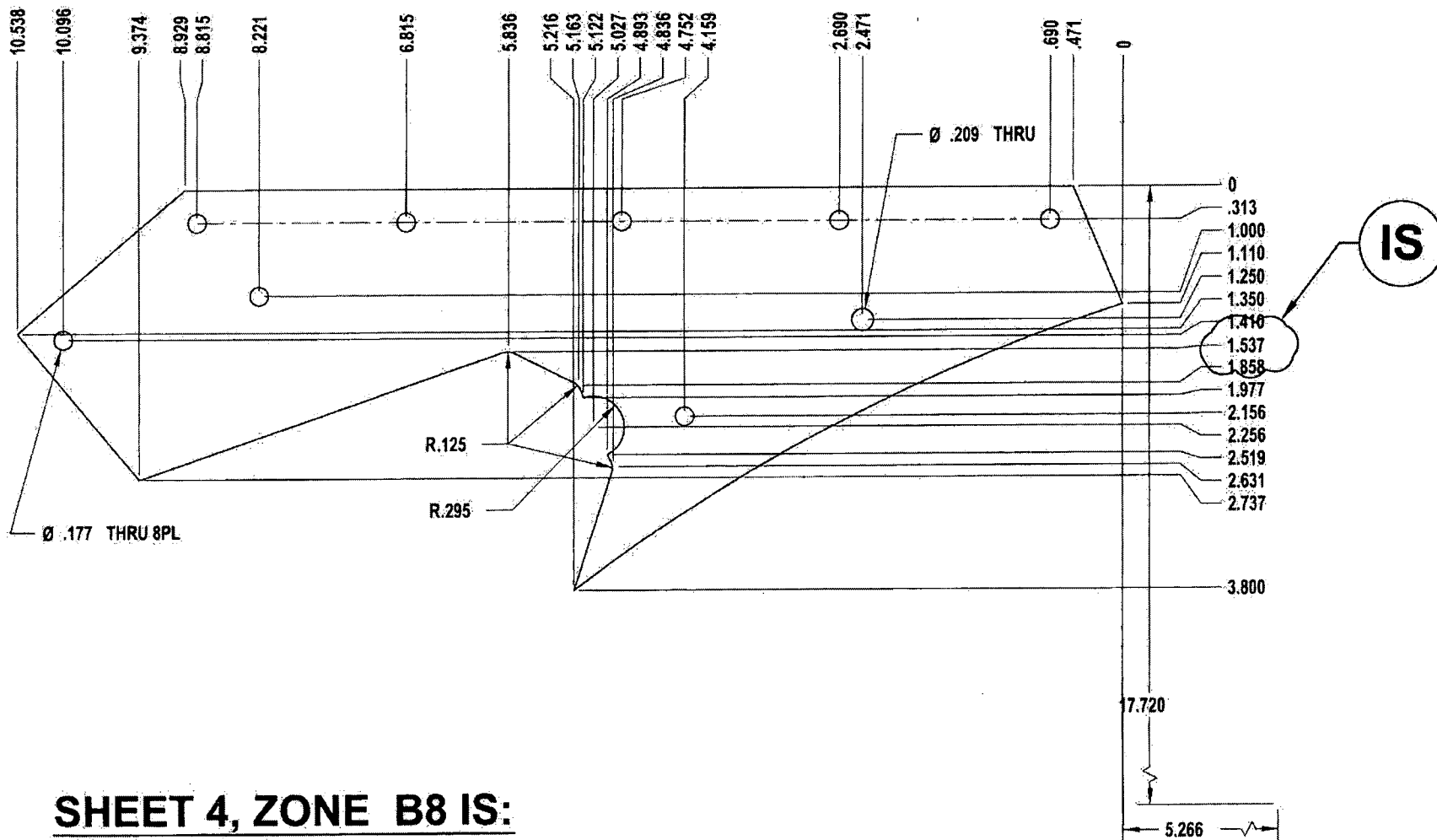
CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03724				SHEET 1 OF 1	
	DWG NO. 646.3300	REV: N/C	PREPARED BY B. PETERS	DATE: 12/05/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: UPPER-GUTTER-ASSY.					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>		QC <i>[Signature]</i>	EFF: NEXT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED ORDINATE DIMENSION.				ECR: D-12-025

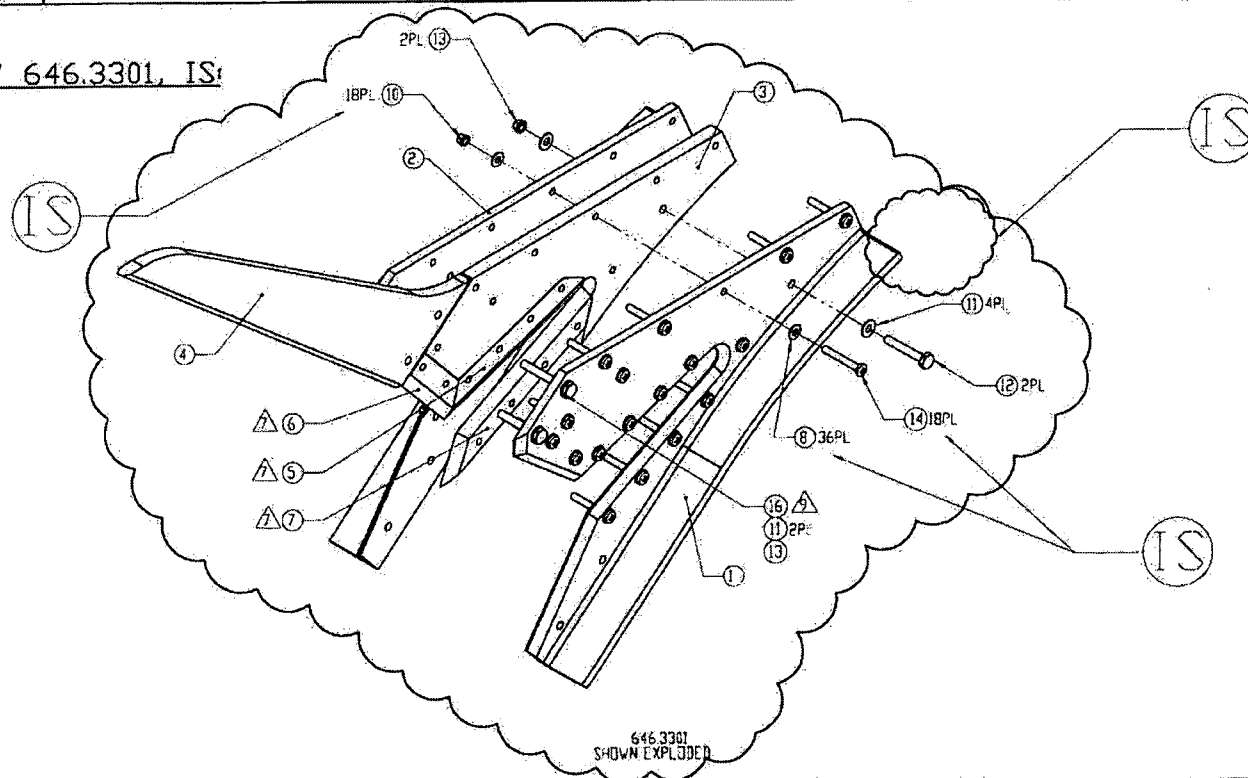


SHEET 4, ZONE B8 IS:

DOCUMENTS EFFECTED:	☐ RFMS ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR	DER REVIEW REQUIRED ☐ YES ☒ NO
---------------------	---	---	--

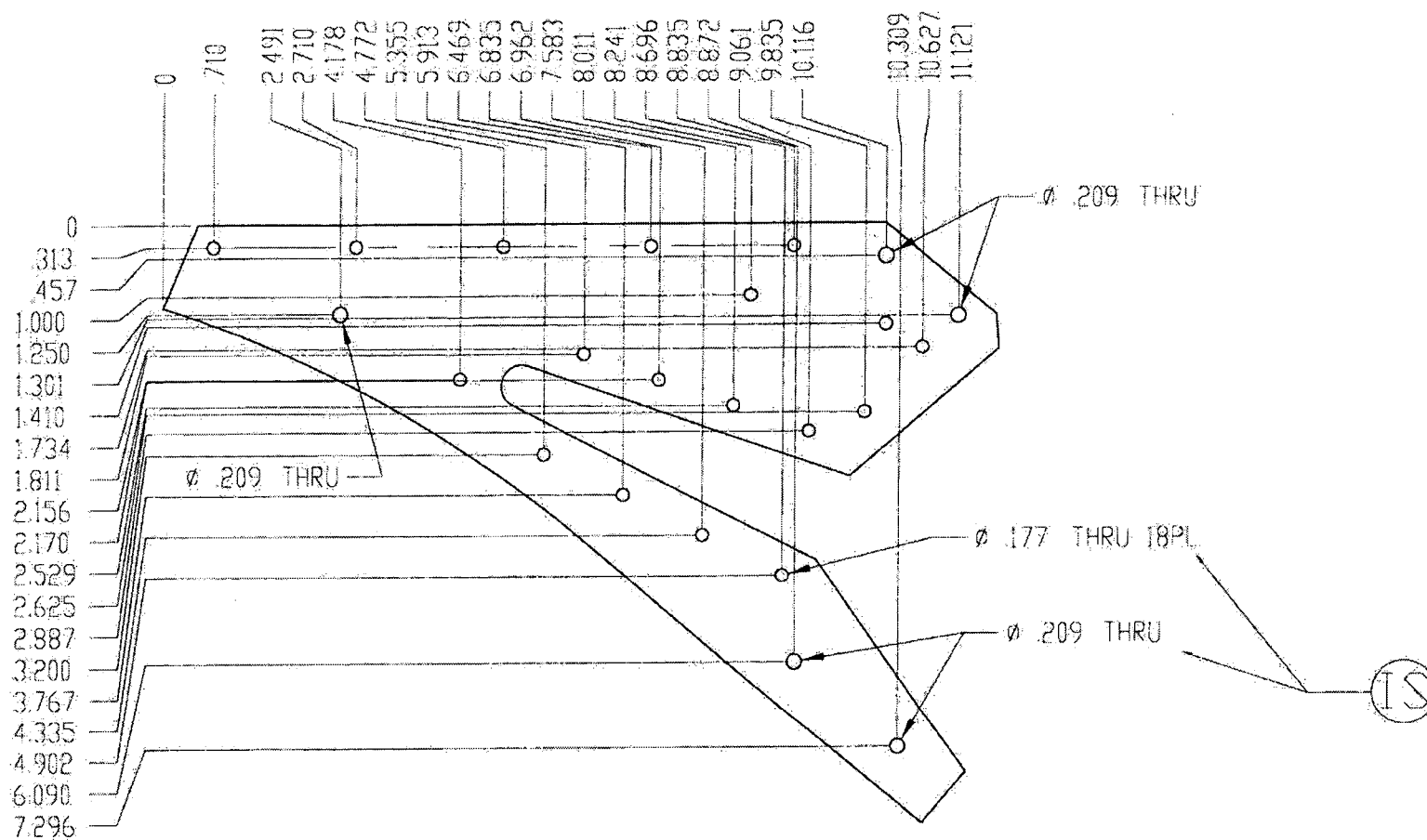
APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 02196		SHEET 1 OF 2	
	DWG NO. 646.3300	REV: N/C	PREPARED BY S. HUFF	DATE: 01/05/09
	EFFECT ON DWG ☐ INC. ☒ UNINC.			
DWG TITLE: UPPER CUTTER ASSY				
APPROVED BY: ENGR. <i>[Signature]</i>	MFG. <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER	
REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS				
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE				

SHEET 1, VIEW 646.3301, IS:



14	R	601.2765	18	SCREW	MS27039-0819
10	R	601.1541	18	LOCKNUT	MS21042L08
9	D	601.2766	3	RIVET	MS20470AD5-18
8	R	601.2764	36	WASHER	NAS1149FN832P
			3301		
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
DOCUMENTS EFFECTED:					CHANGE CATEGORY: ☐ MAJOR ☒ MINOR DER REVIEW REQUIRED: ☐ YES ☒ NO
					☐ MDL ☒ INSTALL INSTRU ☒ ICA ☐ FMS ☒ BOM

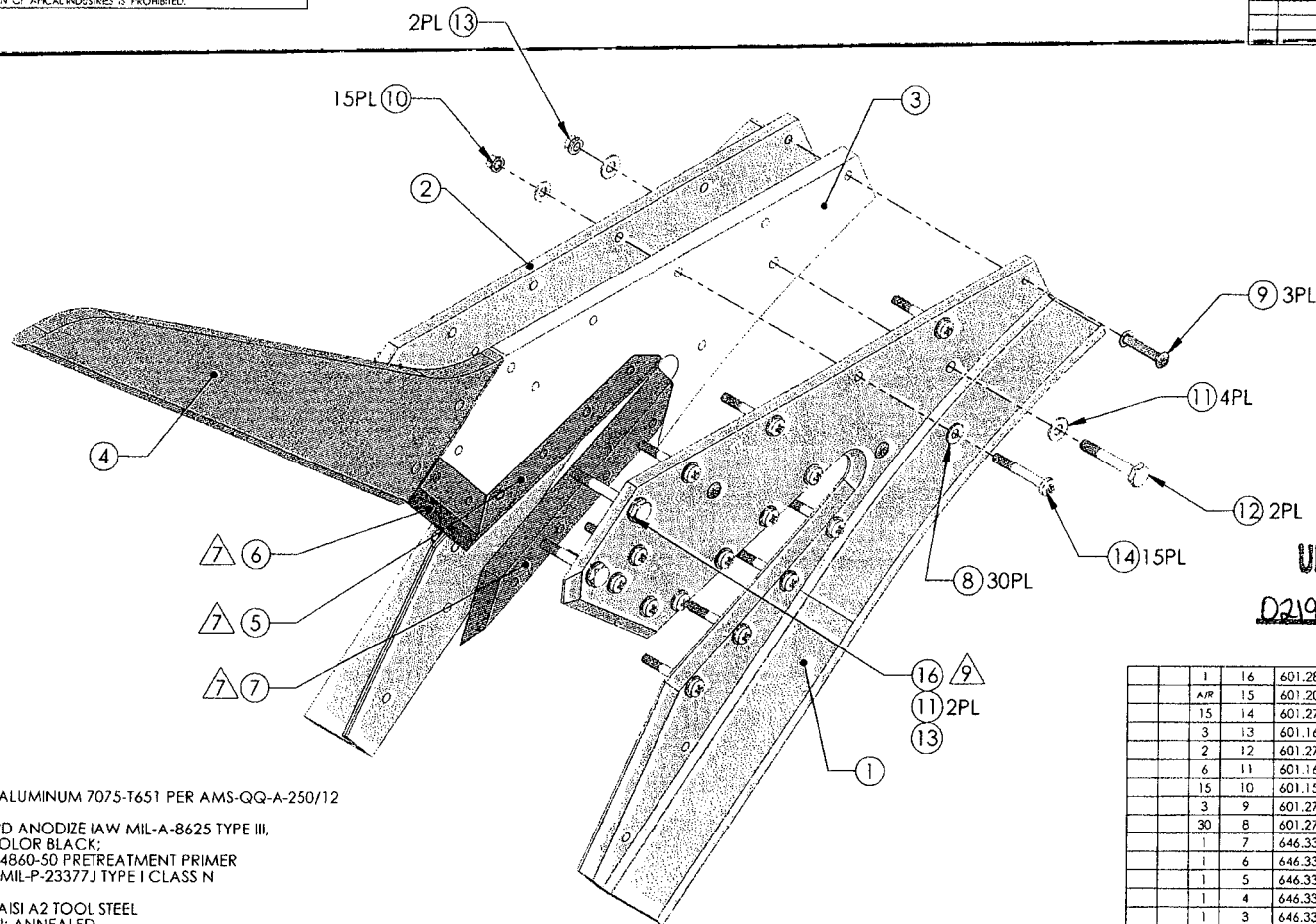
SHEET 3, SECTION VIEW A-A, IS



F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
-----	----	-------------	-----	-------------	------------------------

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



UNINCORPORATED ECN(S)

02196, 03724, 04765

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N
- 3 MATERIAL: AISI A2 TOOL STEEL CONDITION: ANNEALED POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N
5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
6. IDENTIFY IAW MPP-120
- 7 APPLY F/N 15 AS REQUIRED TO ALL FAYING SURFACES OF F/N 5, 6 & 7 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 INSTALL FASTENER FINGER-TIGHT

646.3301
SHOWN EXPLODED

QTY	FIND #	PART #	DESCRIPTION	MATL	SPEC.
1	16	601.2834	BOLT	AMS 188	
15	15	601.2045	RTV, LOCTITE 598		
15	14	601.2765	SCREW	MS27039-0819	
3	13	601.1624	LOCKNUT	MS27042-5	
2	12	601.2763	BOLT	AMS-12A	
6	11	601.1607	WASHER	MS114990307F	
15	10	601.1541	LOCKNUT	MS27042-08	
3	9	601.2766	RIVET	MS20470A-DS-18	
30	8	601.2764	WASHER	MS1149918032F	
1	7	646.3316	BLADE		
1	6	646.3315	BLADE		
1	5	646.3314	BLADE		
1	4	646.3313	UPPER GUIDE		
1	3	646.3312	CENTER PLATE		
1	2	646.3311	RH HALF		
1	1	646.3310	LH HALF		
1		646.3301	UPPER CUTTER ASSY		
QTY	FIND #	PART #	DESCRIPTION	MATL	SPEC.
1	16	601.2834	BOLT	AMS 188	
15	15	601.2045	RTV, LOCTITE 598		
15	14	601.2765	SCREW	MS27039-0819	
3	13	601.1624	LOCKNUT	MS27042-5	
2	12	601.2763	BOLT	AMS-12A	
6	11	601.1607	WASHER	MS114990307F	
15	10	601.1541	LOCKNUT	MS27042-08	
3	9	601.2766	RIVET	MS20470A-DS-18	
30	8	601.2764	WASHER	MS1149918032F	
1	7	646.3316	BLADE		
1	6	646.3315	BLADE		
1	5	646.3314	BLADE		
1	4	646.3313	UPPER GUIDE		
1	3	646.3312	CENTER PLATE		
1	2	646.3311	RH HALF		
1	1	646.3310	LH HALF		
1		646.3301	UPPER CUTTER ASSY		

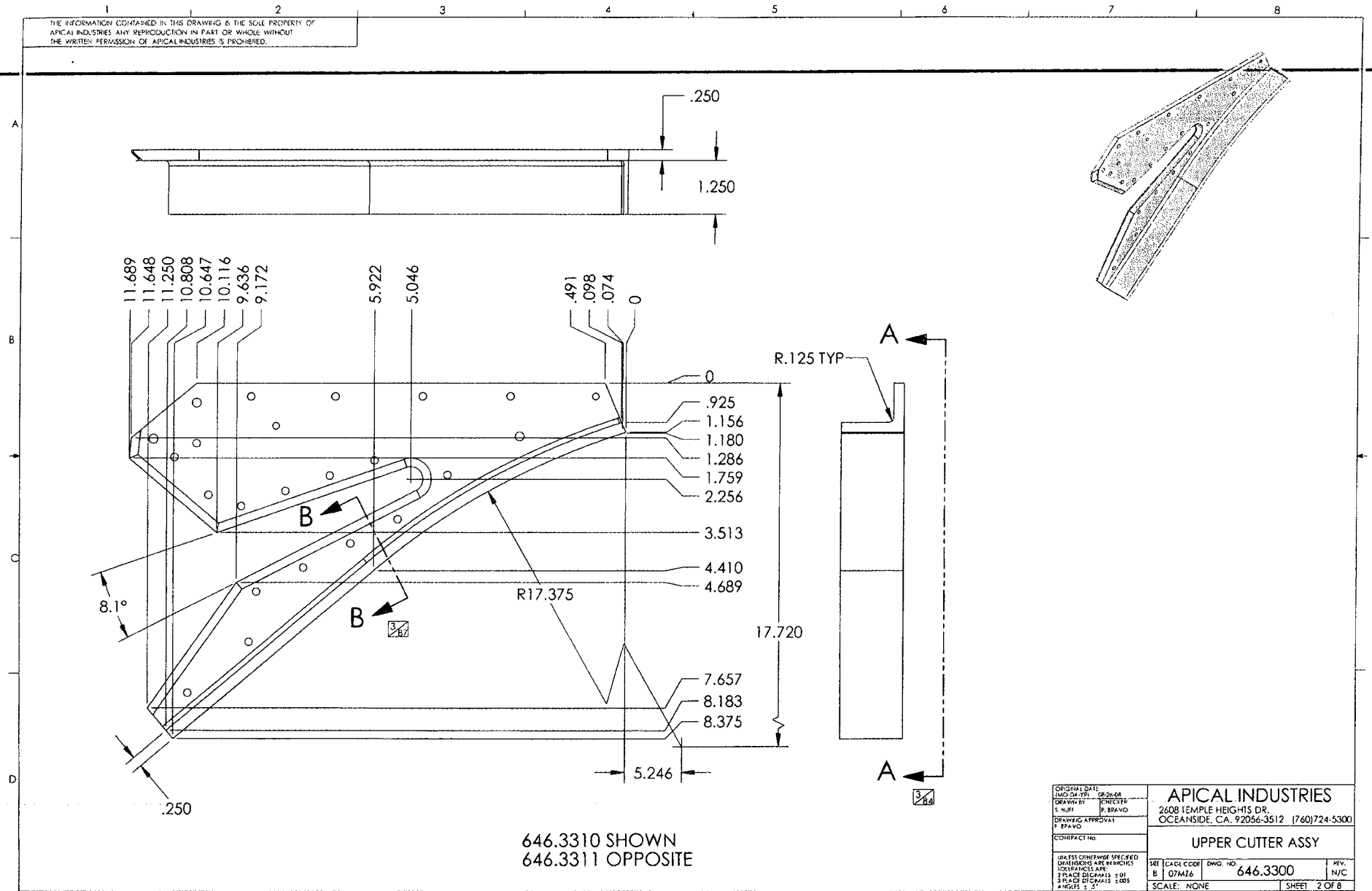
APICAL INDUSTRIES

2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

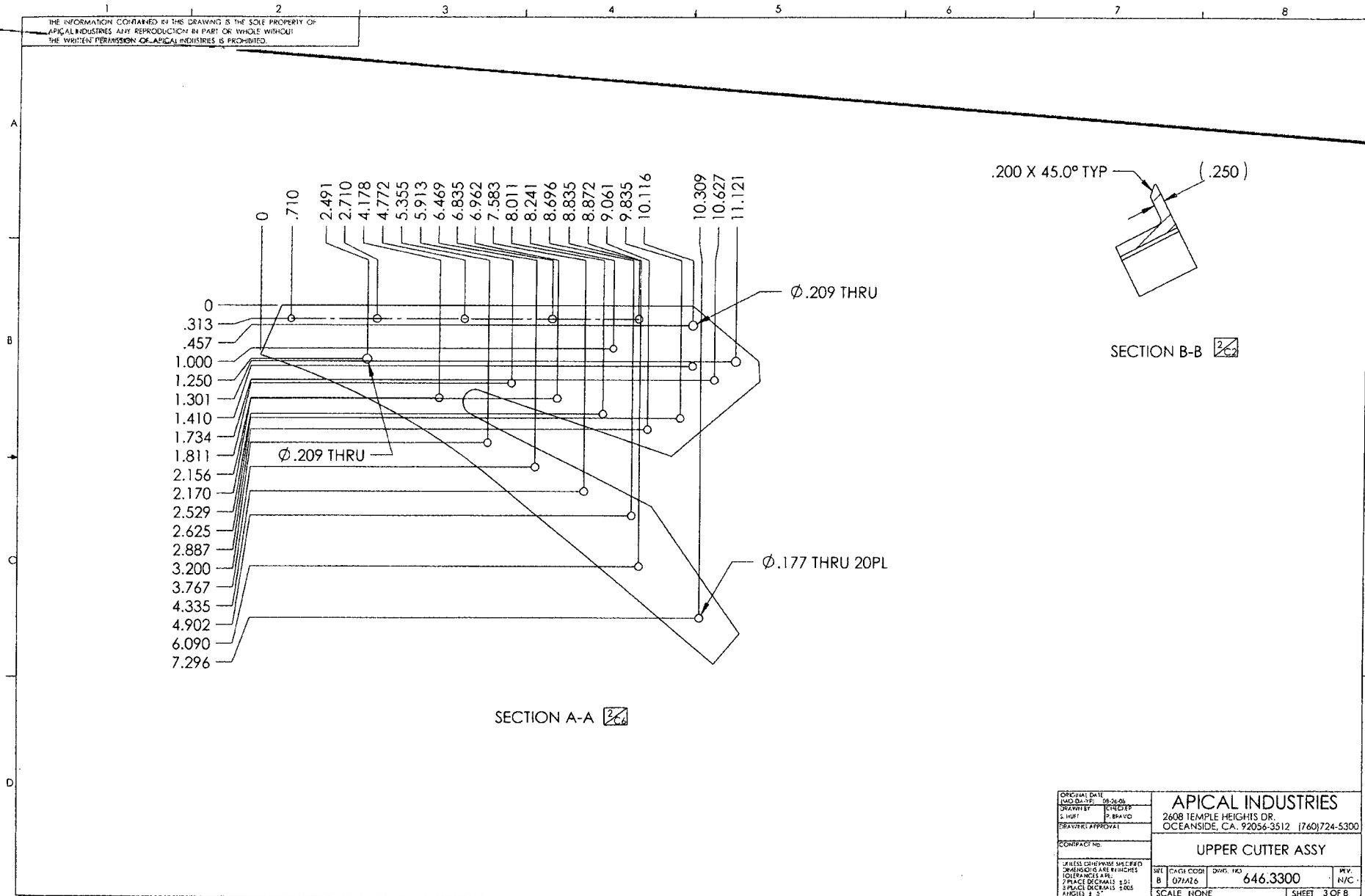
UPPER CUTTER ASSY

SHEET 1 OF 8
SCALE NONE
REV. N/C
DWG. NO. 646.3300
DATE 07/26/06

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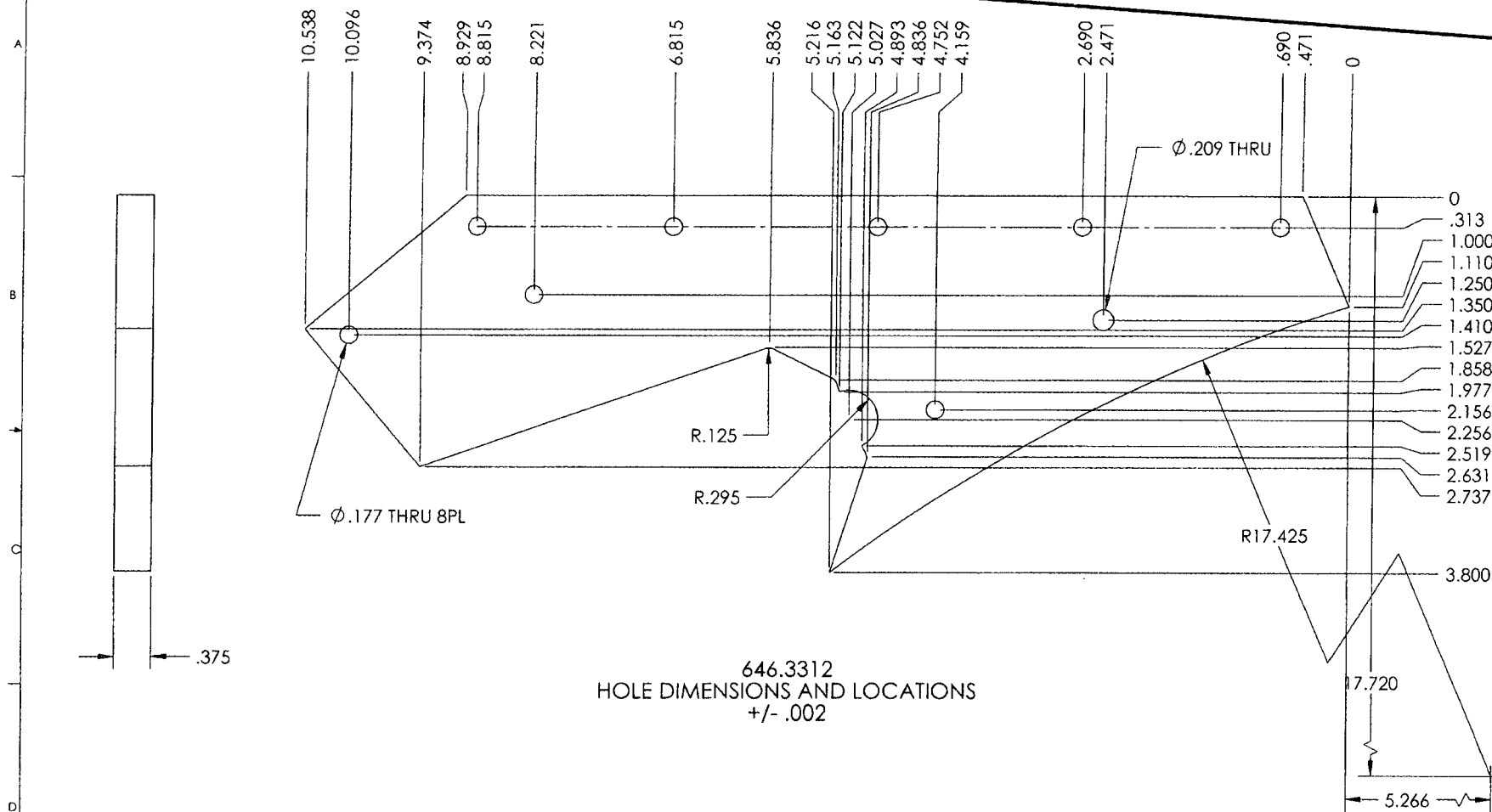
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT
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ORIGINAL DATE: 08-24-06		APICAL INDUSTRIES	
DRAWN BY: J. B. V. P.	CHECKED: J. B. V. P.	2608 TEMPLE HEIGHTS DR.	
DATE: 08-24-06	BY: J. B. V. P.	OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWN BY APPROVAL:		UPPER CUTTER ASSY	
CONTRACT NO.:		SCALE: NONE	SHEET: 3 OF 8
1. ALL DIMENSIONS ARE IN INCHES 2. DIMENSIONS ARE IN INCHES 3. DIMENSIONS ARE IN INCHES 4. DIMENSIONS ARE IN INCHES 5. DIMENSIONS ARE IN INCHES 6. DIMENSIONS ARE IN INCHES 7. DIMENSIONS ARE IN INCHES 8. DIMENSIONS ARE IN INCHES 9. DIMENSIONS ARE IN INCHES 10. DIMENSIONS ARE IN INCHES		REV: 07/12/06	REV: N/C
PART CODE: 071A16		QTY: 646.3300	REV: N/C

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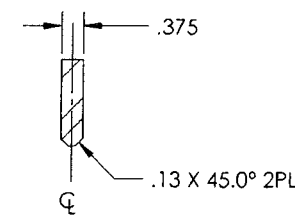
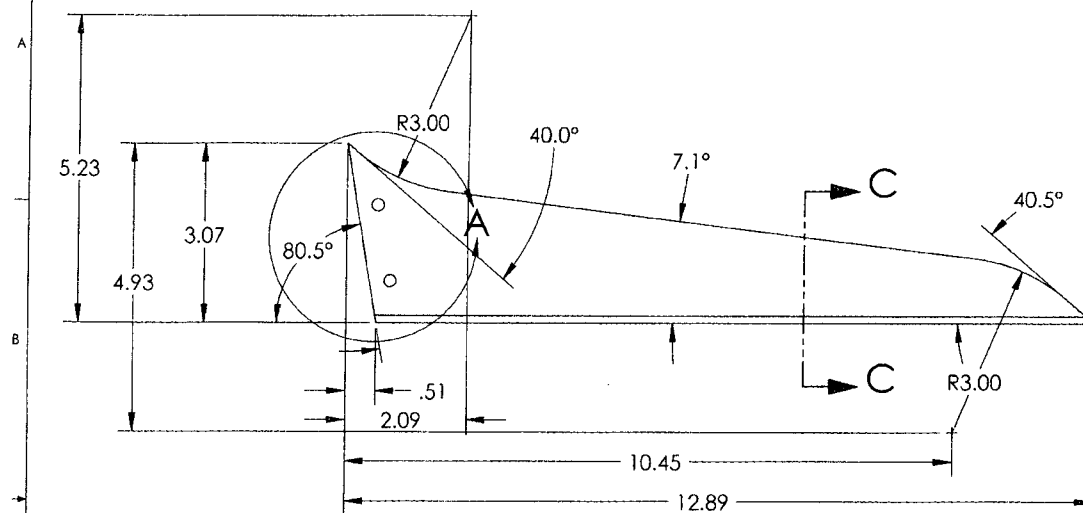
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



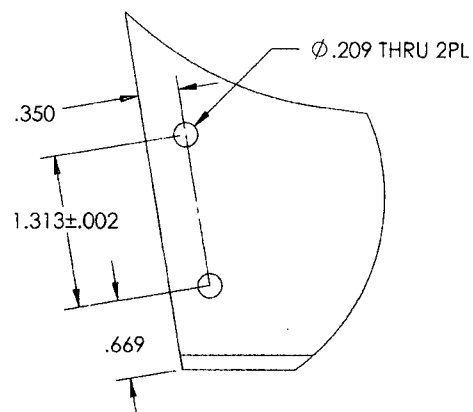
ORIGINAL DATE: 08-21-06		DR. 21-06	
DRAWN BY: J. BRAY		CHECKED: J. BRAY	
DRAWING APPROVAL: J. BRAY		DATE: 08-21-06	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS: ±.01 2 PLACE DECIMALS: ±.005 ANGLES: ±.5°		REV. 1 CAGE CODE: 07M26 SCALE: NONE	REV. 1 CAGE CODE: 07M26 SCALE: NONE
APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300		SHEET 4 OF 8	

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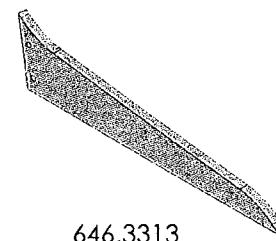
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



SECTION C-C



DETAIL A

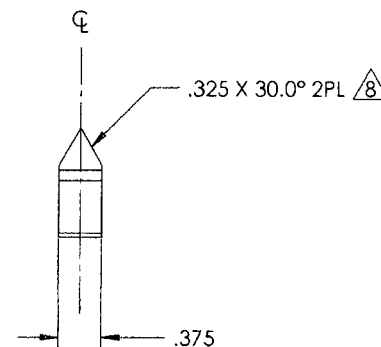
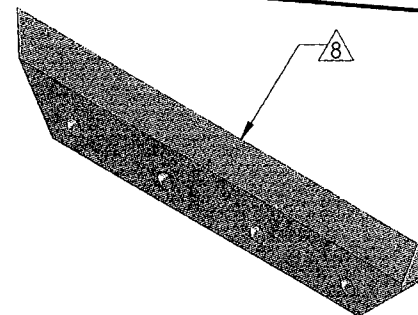
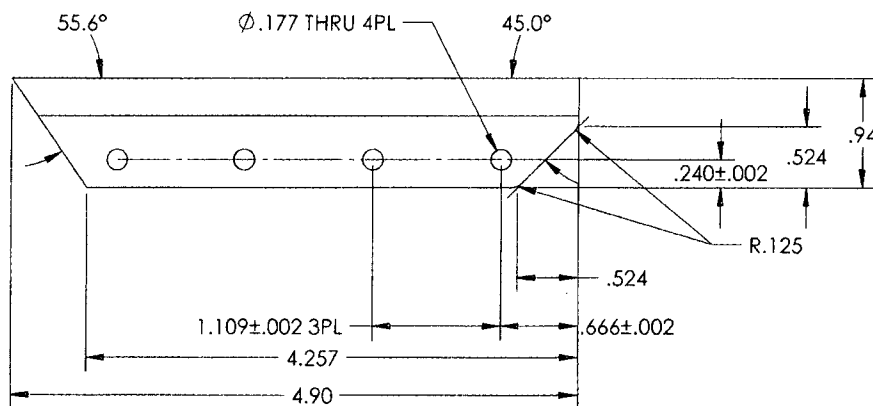


646.3313

ORIGINAL DATE: 06-20-06 DRAWN BY: DIRECTOR S. KEE DRAWING APPROVAL: F. BRANC C. JACOB COMPACTED:	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°	UPPER CUTTER ASSY		
	SHEET 5 OF 8	DATE 07M26	DWG. NO. 646.3300
		SCALE NONE	REV N/C

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

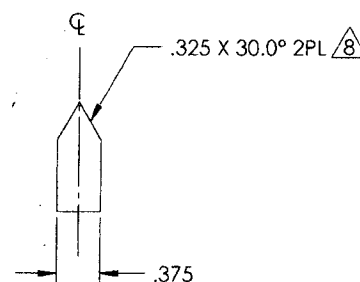
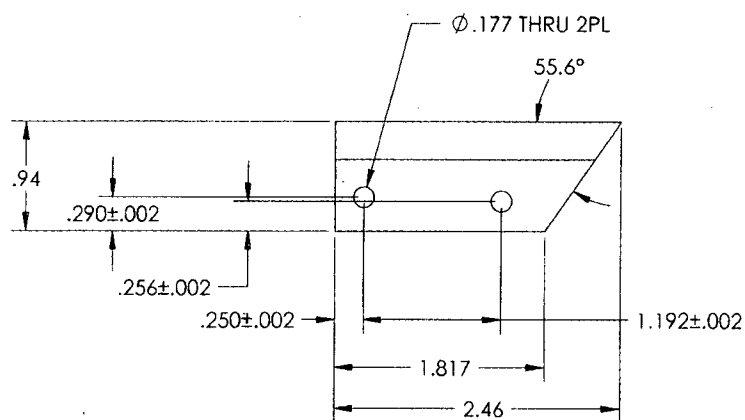
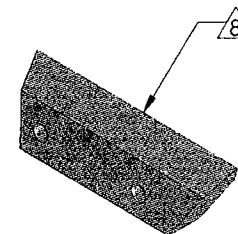


646.3314

ORIGINAL DATE [W/O DA-173] 08-26-08	APICAL INDUSTRIES		
DRAWN BY: [TCEZEP]	2408 TEMPLE HEIGHTS DR.		
CHECKED BY: [S. HUBB]	OCEANSIDE, CA. 92056-3512 (760)724-5300		
DRAWING APPROVAL: [S. HUBB]			
CONTRACT NO.	UPPER CUTTER ASSY		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS 1/64 ALL OTHERS .005			
SHEET NO.	SCALE	DATE	REV.
07/26/06	646.3300		N/C
SCALE: NONE		SHEET 6 OF 8	

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THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



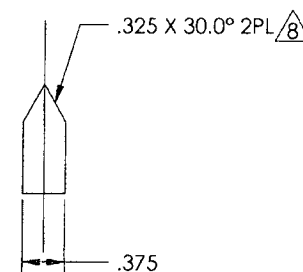
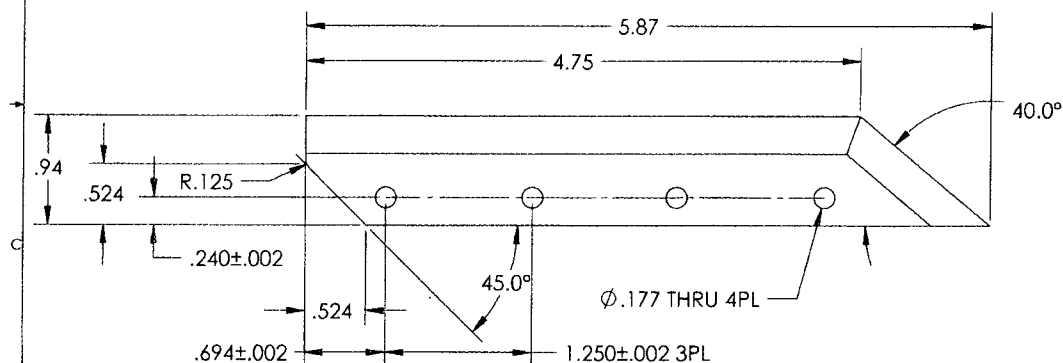
646.3315

ORIGINAL DATE 1/20/2015		DESIGNED J. HART	
DRAWN BY J. HART		CHECKED P. BRAY	
DRAWING APPROVED P. BRAY		DATE 05/24/08	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		REF	DATE CODE
		B	07M26
		DWG. NO.	646.3300
		REV.	N/C
		SCALE	NONE
		SHEET	7 OF 8

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA, 92056-3512 (760)724-5300
UPPER CUTTER ASSY

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THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISION			
REV.	DESCRIPTION	DATE	APPROVED



646.3316

ORIGINAL DATE 08/26/08		APICAL INDUSTRIES	
DRAWN BY SHEFFER		2608 TEMPLE HEIGHTS DR.	
V. NAME SHEFFER		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL SHEFFER		UPPER CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACES DECIMALS ±.01 3 PLACES DECIMALS ±.005 4 PLACES DECIMALS ±.0025		SHEET B	REV N/C
CAGE CODE 07M26		646.3300	
SCALE NONE		SHEET 8 OF 8	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO36957

Purchase Order Date 7/7/2017

PO Print Date 7/7/2017

Page Number 1 of 3

Order From :

VC-MET004

Ship To : DART AEROSPACE LTD

METCOR INC.
560 BOUL. ARTHUR SAUVE
SAINT-EUSTACHE, QC J7R 5A8
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED
JUL 07 2017

Contact Name

Vendor Phone 450 473 1884

Ship To Contact

Ship To Phone

Ship Via: Dart Truck

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						
1	162486	646.3315 Blade	7/21/2017 Yes 7/21/2017		12.00	\$0.00	\$0.00
FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS							
PART ARE MADE FROM AISI A2 TOOL STEEL							
PLEASE NOTE: DETAIL C OF C REQUIRED							
Line Total:							\$0.00
3	162489	646.3314 Blade	7/21/2017 Yes 7/21/2017		12.00	\$0.00	\$0.00
FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS							
PART ARE MADE FROM AISI A2 TOOL STEEL							
PLEASE NOTE: DETAIL C OF C REQUIRED							

Note:

7/7/2017

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Reçu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
320433	1	121035

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053



LIVRÉ À /Shipped To

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
36957		A2	2017/7/7	CLIENT

QUANTITÉ Quantity	No. PIÈCE / Part No.	NOM DE LA PIÈCE / Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
----------------------	-------------------------	--------------------------------	---	-----------------

46 646.3315

(12) 646.3315 162486

(12) 646.3314 162489

(12) 646.3316 162428

(10) 646.9711 163171

1 VALISE

15,

SPN-724

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
VALISE	1	

CERTIFICAT

EMPAQUETAGE Packing	
------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 46
POIDS EXPÉDIÉ / Weight Shipped : 15,00
QUANTITÉ RESTANTE / Quantity Remaining : 0
POIDS RESTANT / Weight Remaining : 0,00

CERTIFICAT

QUANTITÉ EXPÉDIÉE / Quantity Shipped :	46
POIDS EXPÉDIÉ / Weight Shipped :	15,00

Signature:

Date:

EXPÉDIÉ LE / Shipped On : 2017/07/20

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
320433	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

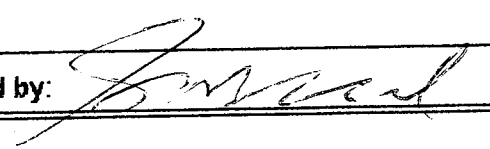
ON K6A 1K7

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
38957	N/A	A2		
SPÉCIFICATIONS DU PROCÉDÉ processing specifications				
VAC HARDEN				
HARDEN AND TEMPER				
EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results				
HARDNESS		58 - 82 HRC	5	80 - 82 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
48	15	646.3315 (12) 646.3315 162488 (12) 646.3314 162489 (12) 646.3316 162428 (10) 646.9711 163171 1 VALISE

COMMENTAIRES / comments

APPROUVÉ par / Approved by:



DATE: 2017-07-20

SPR-7-24
2017-07-24

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détail

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
320433	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
36957	N/A	A2		
SPÉCIFICATIONS DU PROCÉDÉ processing specifications				
VAC HARDEN				
HARDEN AND TEMPER				
EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results				
HARDNESS		58 - 62 HRC	5	60 - 62 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
46	15	646.3315 (12) 646.3315 162486 ✓ (12) 646.3314 162489 (12) 646.3316 162428 (10) 646.9711 163171 1 VALISE

COMMENTAIRES / comments

VAC HARDEN 1800F, 1:30 HR
DOUBLE TEMPER 400F, 2 HRS

Heat treatment (HT) was performed with equipment that meets the requirements of requested specification. All HT operations were performed in compliance with the required HT specification and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

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Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec la spécification demandée. Toutes les opérations de TT ont été faites en conformité avec les requis de la spécification demandée et toutes les vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon de commande et le matériel rencontre les exigences spécifiées.

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Isabel Otero
QA technician



20 JUL. 2017